

## Full Report (All Nutrients) 20004, Barley, hulled

Report Date: June 27, 2017 02:44 EDT

Nutrient values and weights are for edible portion.

Food Group : Cereal Grains and Pasta

**Carbohydrate Factor: 3.95 Fat Factor: 8.37 Protein Factor:3.55 Nitrogen to Protein Conversion Factor:5.83**

Nutrient	Unit	1 Value Per100 g	Data points	Std. Error	1 cup 184g
<b>Proximates</b>					
Water	g	9.44	7	0.554	17.37
Energy	kcal	354	--	--	651
Energy	kJ	1481	--	--	2725
Protein	g	12.48	12	0.574	22.96
Total lipid (fat)	g	2.30	6	0.253	4.23
Ash	g	2.29	14	0.077	4.21
Carbohydrate, by difference	g	73.48	--	--	135.20
Fiber, total dietary	g	17.3	--	--	31.8
Sugars, total	g	0.80	--	--	1.47
<b>Minerals</b>					
Calcium, Ca	mg	33	16	1.773	61
Iron, Fe	mg	3.60	19	0.154	6.62
Magnesium, Mg	mg	133	16	3.571	245
Phosphorus, P	mg	264	9	24.799	486
Potassium, K	mg	452	16	8.962	832
Sodium, Na	mg	12	15	1.241	22
Zinc, Zn	mg	2.77	28	0.081	5.10
Copper, Cu	mg	0.498	25	0.021	0.916
Manganese, Mn	mg	1.943	21	0.149	3.575
Selenium, Se	µg	37.7	--	--	69.4
<b>Vitamins</b>					
Vitamin C, total ascorbic acid	mg	0.0	--	--	0.0

Nutrient	Unit	1 Value Per100 g	Data points	Std. Error	1 cup 184g
Thiamin	mg	0.646	2	--	1.189
Riboflavin	mg	0.285	2	--	0.524
Niacin	mg	4.604	--	--	8.471
Pantothenic acid	mg	0.282	--	--	0.519
Vitamin B-6	mg	0.318	3	0.038	0.585
Folate, total	µg	19	6	1.847	35
Folic acid	µg	0	--	--	0
Folate, food	µg	19	6	1.847	35
Folate, DFE	µg	19	--	--	35
Vitamin B-12	µg	0.00	--	--	0.00
Vitamin B-12, added	µg	0.00	--	--	0.00
Vitamin A, RAE	µg	1	--	--	2
Retinol	µg	0	--	--	0
Carotene, beta	µg	13	--	--	24
Carotene, alpha	µg	0	--	--	0
Cryptoxanthin, beta	µg	0	--	--	0
Vitamin A, IU	IU	22	--	--	40
Lycopene	µg	0	--	--	0
Lutein + zeaxanthin	µg	160	--	--	294
Vitamin E (alpha-tocopherol)	mg	0.57	--	--	1.05
Vitamin E, added	mg	0.00	--	--	0.00
Vitamin D (D2 + D3)	µg	0.0	--	--	0.0
Vitamin D	IU	0	--	--	0
Vitamin K (phylloquinone)	µg	2.2	--	--	4.0
<b>Lipids</b>					
Fatty acids, total saturated	g	0.482	--	--	0.887
4:0	g	0.000	--	--	0.000
6:0	g	0.000	--	--	0.000
8:0	g	0.000	--	--	0.000
10:0	g	0.000	--	--	0.000
12:0	g	0.006	299	--	0.011
14:0	g	0.011	299	--	0.020
16:0	g	0.411	299	--	0.756

Nutrient	Unit	1			1 cup 184g
		Value Per100 g	Data points	Std. Error	
18:0	g	0.017	299	--	0.031
Fatty acids, total monounsaturated	g	0.295	--	--	0.543
16:1 undifferentiated	g	0.006	299	--	0.011
18:1 undifferentiated	g	0.241	299	--	0.443
20:1	g	0.000	--	--	0.000
22:1 undifferentiated	g	0.000	--	--	0.000
Fatty acids, total polyunsaturated	g	1.108	--	--	2.039
18:2 undifferentiated	g	0.999	299	--	1.838
18:3 undifferentiated	g	0.110	299	--	0.202
18:4	g	0.000	--	--	0.000
20:4 undifferentiated	g	0.000	--	--	0.000
20:5 n-3 (EPA)	g	0.000	--	--	0.000
22:5 n-3 (DPA)	g	0.000	--	--	0.000
22:6 n-3 (DHA)	g	0.000	--	--	0.000
Cholesterol	mg	0	--	--	0
<b>Amino Acids</b>					
Tryptophan	g	0.208	28	--	0.383
Threonine	g	0.424	60	--	0.780
Isoleucine	g	0.456	60	--	0.839
Leucine	g	0.848	60	--	1.560
Lysine	g	0.465	65	--	0.856
Methionine	g	0.240	61	--	0.442
Cystine	g	0.276	38	--	0.508
Phenylalanine	g	0.700	60	--	1.288
Tyrosine	g	0.358	58	--	0.659
Valine	g	0.612	60	--	1.126
Arginine	g	0.625	60	--	1.150
Histidine	g	0.281	60	--	0.517
Alanine	g	0.486	58	--	0.894
Aspartic acid	g	0.779	58	--	1.433
Glutamic acid	g	3.261	58	--	6.000
Glycine	g	0.452	58	--	0.832
Proline	g	1.484	58	--	2.731

Nutrient	Unit	<sup>1</sup> Value Per100 g	Data points	Std. Error	<sup>1</sup> cup 184g
Serine	g	0.527	54	--	0.970
<b>Other</b>					
Alcohol, ethyl	g	0.0	--	--	0.0
Caffeine	mg	0	--	--	0
Theobromine	mg	0	--	--	0
<b>Flavonoids</b>					
Flavan-3-ols					
(+)-Catechin <sup>5</sup>	mg	2.4	16	0.17	4.4
Proanthocyanidin					
Proanthocyanidin dimers <sup>1 2 3 4</sup>	mg	33.6	35	11.06	61.9
Proanthocyanidin trimers <sup>1 2 4</sup>	mg	30.6	32	12.95	56.2
Proanthocyanidin 4-6mers <sup>1</sup>	mg	27.2	2	--	50.0
Proanthocyanidin 7-10mers <sup>1</sup>	mg	0.0	2	--	0.0
Proanthocyanidin polymers (>10mers) <sup>1</sup>	mg	0.0	2	--	0.0

<sup>1</sup>Gu, L., Kelm, M.A., Hammerstone, J.F., Beecher, G., Holden, J., Haytowitz, D., Gebhardt, S., and Prior, R.L. Concentrations of proanthocyanidins in common foods and estimations of normal consumption, 2004 J. Nutr. 134 pp.613-617

<sup>2</sup>Jerumanis, J. Quantitative analysis of flavanoids in barley, hops, and beer by high-performance liquid chromatography (HPLC), 1985 J. Inst. Brew. 91 pp.250-252

<sup>3</sup>Madigan D. and McMurrrough I. Determination of proanthocyanidins and catechins in beer and barley by high-performance liquid chromatography with dual-electrode electrochemical detection, 1994 Analyst 194 pp.863-868

<sup>4</sup>Zimmermann, B. and Galensa, R. One for all-all for one: proof of authenticity and tracing of foods with flavonoids. Analysis of proanthocyanidins in barley and malt, 2007 Eur Food Res Technol. 224 pp.385-393

<sup>5</sup>Holtekjølén, A. K., Kinitz, C., and Knutsen, S. H. Flavanol and bound phenolic acid contents in different barley varieties., 2006 J. Agric. Food Chem. 54 pp.2253-2260